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PARTICIPATION AND TRUST: AN EMPIRICAL APPLICATION IN THE BELGIAN CONTEXT

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PARTICIPATION AND TRUST: AN EMPIRICAL APPLICATION IN THE BELGIAN CONTEXT

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Abstract

Though the vast majority of academic authors and business consultants still treat financial participation and participation to decision-making as if they were separate issues, we feel that these issues are to a large extent interdependent. The study of this interdependence is the topic of this paper. In the first part, we define the concepts of financial participation and participation to decision-making and we suggest the concept of social capital as the theoretical tool that will allow us to describe the interaction between the effects of the different forms of worker participation. In the second part we describe the main results of an empirical investigation of the relationships between financial participation, participation to decision-making and social capital.

Introduction

Employee participation is an ambiguous concept: "to participate" means "to take part in", but also "to be a part of". Both do not always go together: one can feel and be part of an organisation in which one does not have a say, e.g. a soldier in the army, but one can also take part to decisions concerning an organisation of which one is not a part, e.g. external consultants. This ambiguity of the participation concept acquires another dimension when one applies it to employees: employee participation refers both to financial participation and to participation to decision-making (PDM), alternatively named shop-floor democracy, structural participation, or even empowerment.

The relationship between financial participation and PDM is a complex one: on the one hand, they refer to different problems, fields and techniques: the issue of *shopfloor organisation* and the issue of *rewards*; on the other hand, they are related concepts, and complementary instruments because both financial participation and PDM give the employees the opportunity to be part of and to take part to the life of their organisations.

The link between financial participation and PDM is a matter of internal coherence of the human resources policy of an organisation. If one wishes workers to feel part of their corporation, and requires that they should take part to the decisions by providing valuable information, it would be inconsistent not to give these same employees any share of the corporate profits. Inconsistency between any two domains of HRM would lead the employees to misinterpret the signals sent by the management, and would inevitably cause a loss of efficiency (Beer *et al.*, 1984).

Beer et al. further claim that decisions regarding PDM are more fundamental than decisions regarding financial participation: "We believe that the most central issue for employees as stakeholders is the question of *influence*: how can they act to improve or protect their economic share, psychological satisfaction, and rights? How is such influence to be exercised?" (Beer *et al.*, 1984: 40)

However, decisions about financial participation are closely tied to decisions regarding PDM, firslty because "the real power of a gain-sharing plan comes when it is supported by a climate of participation and when various structures, systems, and processes involve employees in decisions that will improve the organisation's performance and result in an organisation-wide bonus." (Beer *et al.*, 1984: 145) A second reason is that financial participation can levarage the power-sharing effect of PDM when it gives the workers access to the capital of their company. When workers own shares, they not only have a right to dividends, but they also gain a powerful influence instrument through the voting rights in the general assembly.

In spite of the interdependence between financial participation and PDM, the vast majority of academic authors and business consultants continues to treat financial participation and PDM as if they were separate issues (Black & Gregersen, 1997; Festing et al., 1999). Therefore, the theoretical models offered in the literature are attemps to understand the processes underlying either financial participation or PDM, but rarely both. Hence, we will start by an exposition of the separate theories of PDM and financial participation. At the end of this literature survey, we will indicate how the study of both issues could be combined into a powerful new theoretical framework.

Part I: Different forms of participation: definitions and goals

I.1. FINANCIAL PARTICIPATION

Financial participation basically refers to any system whereby the financial gains (or losses) of a company are shared with its workers. Additionnally, a number of conditions should be fulfilled in order to distinguish financial participation from mere bonus schemes[1]: (1) it should have a lasting character; (2) it should involve at least a majority of workers and, in those cases where all workers are not involved, the group who benefits from the scheme should be defined with objective criteria (e.g. years of employment); (3) the participation scheme should be tied to some measurable corporate performance index; (4) it should be organised on the plant or corporation level.

I.1.1. Profit Sharing

First of all, workers may be paid a premium dependent on some key corporate performance indicator. Though this form of financial participation is generally labelled "profit"-sharing, other key indicators may be considered than after or before tax profits; examples involve productivity increases (gain-sharing), value added, turnover, or any other common performance measure. The crucial element is that those schemes link *individual* pay with the results of the *collective* effort.

One *first effect* of profit-sharing is to increase the total pay of an employee, when the company makes a profit. Pay is a fundamental (though not the only) determinant of employee satisfaction, hence of commitment and productivity (Herzberg, 1968). Therefore, financial participation can be assumed to have an impact on commitment and productivity through an increased employee satisfaction. However, pay satisfaction is the result of a complex interplay of several psychological attitudes: perceived fairness and equity (Adams), relationship to performance (Lawler, 1981), assessment of procedural aspects (Lawler, 1981), etc. Hence we expect this effect to be significant, though not overwhelming.

A *second effect* of profit-sharing is that it provides individual workers with an incentive to work harder as an individual, since his own individual pay becomes dependent, amongst other things, from his own individual performance, corporate profits being nothing more than the result of the aggregated individual performances. However, the larger the workforce, the more individual performance will have a diluted effect on aggregate performance, whilst the closer incentives are to individual performance, the better they will effectively stimulate workers to increase their individual effort. Therefore, the incentive effect will function only under the following conditions: either the workforce is small, or the cohesion of the workforce is strong. This cohesion can be enhanced e.g. by a strong corporate culture, by a strong trust climate, or by a high level of cooperation between the workers.

Fortunately, profit sharing is expected "to improve economic performance through *increased workplace cooperation* and information flow." (Kruse & Blasi, 1995: 1). Financial participation can function as an important training instrument, in order to help workers understand the link between their own task and global corporate operations (Hatcher & Ross, 1991). The creation of a financial participation scheme often provides corporate management with an opportunity to teach the employees the basics of cost-accounting, profit and loss statements, balance sheets, etc. (Festing *et al.*, 1999) Once they understand the basics of

[1] Those conditions are largely similar to the definition of participation to profits and enterprise results suggested in the first PEPPER report (Uvalic, 1991), and widely adopted thereafter in the literature.

financial management, the workers are more likely to see how mutual aid and cooperation on the workfloor may lead to financial benefits.

Summarising, profit sharing provides the workers with a potentially powerful motivator and incentive that will unleash its full effect when the link between individual effort and collective performance is made clear to all the participants.But profit sharing suffers from one limitation: it focuses the attention on one particular and unidimensional performance indicator.

I.1.2. Capital participation

Capital participation can be defined as any scheme aiming at giving the workers access to the capital of their corporation. Capital participation is able to overcome the limitation of profit sharing because it ties the participation premium of the workers to the market value of the company's stock, which reflects (at least to some larger extent than any other singular financial performance indicator) the future prospects of the company. This kind of participation can also take many different forms in practice.

Corporate savings plans are a *first* kind of capital participation. These plans consist of encouraging individual savings by giving workers a premium when they save money in order to buy their company's shares. On the one hand, the company can give its workers a premium atop of saved money, which in the next step can serve to buy shares on the stock market. On the other hand, the company can buy shares on the capital markets on its own account and sell them back to its workers at a discount price. Most often, workers are required to keep the shares acquired with the help of their company for a minimum number of years, ranging in most cases from one to five years.

Corporate savings plan, when they are accessible to the whole workforce, have the advantage of giving everyone equal opportunities to buy shares, without compelling anyone to do so. The workers who eventually decide to step into the corporate savings plan will have to make a personal contribution and can therefore be considered really interested by this opportunity to step into the capital of their company. This is not the case when shares are distributed for free to every worker, which is a *second* way of setting up capital participation. But in both cases, capital participation can be assumed to have the same incentive effects as profit sharing, and additionally to focus the workers' attention on the long term evolution of the company. Workers' efforts are not driven by a short-term measure like e.g. next year's turnover, but by the market valuation of the growth potential of their company. Hence capital participation provides an additional incentive to develop the core assets of the company in order to assure the company of a bright future. When the return to the shareholders drives managerial performance, capital participation ensures that the collective workers' effort will be driven by the same variable.

A *third* way to encourage stock ownership by workers is to transform the premium given within the framework of a profit sharing scheme into shares: this method combines the advantages of profit sharing and capital participation, the main advantage of profit sharing w.r.t. capital participation being that the impact of workers' collective performance on particular performance indicators, e.g. value added or productivity, is often much clearer than its impact on the share price of a corporation. The share price, even when it expresses a good approximation of the future prospects of the corporation, is indeed influenced by a number of factors which are totally exogenous to the corporation itself, like e.g. interest rates, oil prices, economic cycles, etc.

Though those three methods capture the essence of most capital participation plans, it should be noted that the "capital" itself can take various forms: ordinary shares, non-voting shares, or stock options. Though technically stock options are distinct from shares, we consider option plans to be one kind of capital participation, because options provide their owners essentially with an access right to ordinary shares. In addition, shares acquired through stock option plans are often required to be kept for a number of years, just as ordinary shares acquired through corporate savings plans. The main difference is that stock options give their owners differed access to capital, thereby emphasising the long term evolution of the corporation. Capital participation plans using non-voting shares as the participatory instrument fit perfectly within the preceding discussion of capital participation. However, when the participation scheme ends up in worker ownership of ordinary shares, it provides these workers with direct influence on the decisions of the general assembly through the voting rights attached to those shares.[2]

Before turning to PDM, let us summarise the main characteristics of capital participation. Capital participation provides the workers with a powerful incentive to increase their efforts and focus their attention on the long term development potential of the corporation. Savings plans have the advantage of concentrating efforts on the most committed employees without excluding anyone, but they are often unable to bridge the distance between individual effort and share performance. Profit-based capital participation, by focusing the attention on one particular indicator of collective performance, are one way to bridge this distance. Whichever technique is being used, if the workers are given the chance to become owners of ordinary shares, they will have the opportunity to exercise direct control, and to a smaller extent some influence, on management's decisions. This will certainly help them increase their understanding of the corporation's success factors, hence help them direct their efforts towards these particular factors.

In order to be able to appreciate fully the empirical part of this research, the reader should be aware of the incentives provided and limits set by the Belgian law to the development of financial participation. However, an overview of legal matters relevant to financial participation lies outside the scope of this paper and will not be provided here.[3]

I.2. PARTICIPATION TO DECISION-MAKING

Participation to decision-making (PDM) refers to any corporate programme which allows employees to take part to some decision-making processes within the corporation. This kind of employee participation is most often referred to as structural participation in the literature, though this term often doesn't reflect adequately what it designates. Indeed, it is obvious that participation to decision-making can take many forms: it can be consultative as well as substantive, informal as well as formal; formal participation can itself be either direct, on the factory floor, or indirect, with worker representatives sitting in the the corporate board, etc., and only the latter kind of participation does according to us really deserve the adjective "structural".

Instead of discussing every kind of PDM we will structure our discussion of PDM in three broad categories that appear to capture a large proportion of all PDM-initiatives: participation on the workfloor, participation to social issues (which is largely regulated), and participation to strategic issues. Though during this discussion it should not be forgotten that any classification scheme is "to some extent (...) artificial, since successful participation may

[2] The opportunity to take part in the general assembly makes this last kind of capital participation come very close to strategic PDM, which will be discussed in the next section.
[3] See e.g. De Grauwe (2000), Dehaene (1998), De Wortelaer (1996) Belgisch Staatsblad 28.10.1999.

involve the interaction of several formal participation schemes." (Levine & D'Andrea Tyson, 1990: 191)

I.2.1 Participation on the workfloor

Participation on the workfloor is mostly voluntary, informal and direct, hence sometimes short-term, but can also be formalised if the management or the unions wish to. Participation in work and workplace decisions focuses on the organisation of work and other shopfloor issues important to workers, such as task rotation, work schedules, etc. Quality circles and autonomous teams qualify as examples of participation in work and workplace decisions.

Participation on the workfloor, by its voluntary nature, may vary from consultative to substantive participation and involves in some cases a real delegation of decision-making power regarding team arrangements such as e.g. setting the work pace, given the overhead constraints of output goals set by the management.

Participation on the workfloor is commonly implemented in order to achieve two things. Firstly, it can enhance workers' morale and a good atmosphere on the workfloor by giving the workers a chance to voice their concerns regarding their daily life at work to a manager, a team leader, a joint managers-workers council or any other person who has some effective power to take decisions about this kind of minor problems. Secondly, when workers are encouraged to voice not only their concerns but also their suggestions regarding the improvement of work processes, participation on the workfloor is an essential instrument to tap the operational know-how possessed by experienced workers (Manz, 1992). The process of taking and implementing decisions about operational issues can indeed be smoothed out when the people who will support the consequences of this decision are also involved with the decision process itself.

I.2.2. Participation to social issues

By social issues we mean those issues that are typically the topic of management-union negotiations: terms of employment, health and safety at work, work circumstances, etc. Participation to social issues is largely mandatory, i.e. regulated by the law, hence this is the most common form of PDM in Belgium as well as in most other continental European countries (Knudsen, 1995). This kind of PDM is most often formal, organised on a long-term horizon, and indirect, i.e. based on mechanisms of representative democracy (e.g. elected shop stewards). Mandatory representative participation to social issues involves typically a rather small influence, but encompasses broader, though well-defined, topics than the other kinds of PDM.

In Belgium, mandatory PDM involves workers' councils, health and security committees, and mandatory management-union dialogue (Koene *et al.*, 1991). The aim of mandatory participation is to protect the interests of the workers against the power of the employers, and one of its consequences is indeed a redistribution of power in favour of the workers or their unions. However, this power is unevenly distributed over the different decision issues: unions have gained voice in discussions about pay, terms of employment and job security, but still have no say about matters of job design, work organisation, investment decisions, and business strategy. Besides, mandatory participation was designed solely with the aim of protecting the workers, and without considering the corporation's broader interests. Therefore, corporations cannot expect to gain anything from this kind of PDM, except a good social climate, provided both parties are able to co-operate on the basis of reciprocal trust; but such co-operation on the basis of reciprocal trust between workers and management can also lead to a good social climate without mandatory participation.

I.2.3. Participation to strategic decisions

Participation to strategic decisions is without doubt a rare occurrence, though the few known examples show how powerful this can be (Maaloe, 1998; Streeck, 1984; Whyte, 1991). By participation to strategic decisions we mean those schemes that allow workers to influence decisions made at the board level: strategic investments, joint-ventures, take-overs, mergers, acquisitions, development of new product lines, and decisions regarding the distribution of profits. In Belgium, this kind of participation is voluntary; by the very nature of the issues involved, it is formal and long-term oriented, and most often indirect. Just like participation on the workfloor, which is also voluntary, participation to strategic decisions ranges from mere transmission of information to real co-decision procedures.

Examples of participation to strategic decisions include joint management-workers committees and representatives of the workers in the board of directors. The latter is the most frequent and most frequently studied in the literature (Whyte, 1991; Streeck, 1984). Reasons to include a representative from the workers in the board of directors are: legal arrangements, as in Germany; company by-laws; voluntary decisions; and stock ownership by the workers - i.e. capital participation. This last possibility is for the vast majority of workers the most straightforward way to gain some influence on the board of directors of their company, though it can be hardly possible to achieve when the company is very large and when even a fraction of its equity represents huge amounts of money, that workers can never afford unless a corporate-level stock ownership plan encourages them to buy shares. In any case, if workers wish to exert some influence on the strategic decisions of the corporation through their shares, they have to organise themselves and group their shares, e.g. by setting up a workers' cooperative (Lambrechts & Van Steenbergen, 1999).

Participation to strategic decisions may be another way of tapping workers' know-how and experience, but that is less relevant than it is to participation to workfloor decisions, because obviously workers are less familiar with financial and strategic issues than they are with operational issues. But something else is at stake here: allowing workers to participate to strategic decisions is the one best way to ensure that the corporation will in the long run strike a balance between the interests of at least some of its stakeholders (Evan & Freeman, 1995). Such a balance between the interests of the various stakeholders is required for the company to survive in the long run (Leader, 1999). This fits within the view that a corporation is not solely an instrument to generate profits for the shareholders.[4]

Summarising this brief sketch of PDM, we can note that the three kinds of PDM lead to different results and should be used as distinct instruments depending on the goals pursued by the management. This threefold distinction is confirmed by our empirical data (see § II.2.2). Mandatory participation to social issues primarily protects the interests of the workers, but good union relations can foster a good atmopshere at work and enhance other - less formal - forms of dialogue and co-operation between managers and workers. Participation on the work floor is another instrument to improve the work atmosphere and the workplace ethos of the workers, but when it is correctly implemented it may have far greater effects in terms of workers sharing their operational know-how and experience with the managers to the benefit of productivity. Participation to strategic decisions will have an immediate negative impact on the managers, who will suffer from a power and status loss, but can have a significant positive impact on the long-term development potential of the corporation by the creation of a meeting place where workers, managers and shareholders will have the opportunity to defend their respective interests on a more or less equal footing.

[4] Though the stakeholder view of the corporation may be rejected by some shareholders, it is not a mere academic view, but also of the view of managers: 42 out of our 62 respondents claim their clients and workers to be more important than the shareholders for the long run development of their company.

I.3. FINANCIAL PARTICIPATION AND PDM: COMMON DIMENSIONS

Several authors have claimed that financial participation and PDM mutually strengthen each other and, when combined, constitute a powerful lever to increase corporate performance. Levine & D'Andrea Tyson (1990) conclude their comprehensive review of the empirical literature by claiming that: "Most studies suggest that both participation and ownership have positive effects on productivity." (Levine & D'Andrea Tyson, 1990: 202). Financial participation and PDM schemes should not be set up independently of each other: several other scholars have underlined the "necessity of appropriate integration" of PDM and financial participation (Ben-Ner & Jones, 1995: 537), arguing that "in order to have a significant individual motivational effect, return and control rights held by employees must be combined."

Why is it necessary to integrate financial participation and PDM? A first reason is that "On a micro-level, employer and employee face a prisoner's dilemma. The fundamental problem of management is to convince employees that they will benefit by working hard and sharing ideas. If workers share their ideas with a non-cooperative management, management will merely raise the expected level of output; the result is that workers will end up working harder for lower wages. Conversely, if managers give autonomy and rewards to workers who restrict output, profits will plummet." (Levine, 1995) One obvious means to encourage cooperative behaviour between workers and management is to promote common objectives, e.g. making both workers' and managers' salary dependent on the same long-term performance indicators. However, how could the workers accept their salary to be made dependent upon any indicator which they do not have any power to influence? PDM is necessary to give workers and managers equal opportunities to control the evolution of their own rewards.

A second reason is that financial participation is by definition restricted to schemes linking individual bonuses with group performance, and not individual performance. Therefore any scheme of financial participation is likely to suffer from shirking and free-riding. This problem is often referred to as the 1/N problem (Blasi & Kruse, 1995; Ben-Ner & Jones, 1995) and follows from the assumption of human opportunism which grounds agency theory (Bowie & Freeman, 1992): though the worker is alone (1) to carry the cost of an additional effort, he will have to share the additional profit flowing from the increased company performance with numerous (N) fellow-workers. Therefore the expected cost of additional effort is much higher than the expected gain, with the (expected) consequence that no additional effort is made. Hence, it is obvious that financial participation will only provide a satisfactory incentive structure if the group cohesion among the employees is sufficiently strong. This group cohesion can be achieved, amongst other things, by means of PDM, since the workers will be empowered through PDM to set objectives, to mutually control their progress and to sanction (positively or negatively) their colleagues' achievement.

It has been argued that financial participation itself involves some important control mechanisms (peer control, social pressure, identification with the company, high-effort norms, ...) that reduce the incentives to shirk, increase employee loyalty (Doucouliagos, 1995), and enhance cooperation through better alignment of objectives (Ben-Ner & Jones, 1995). But these control mechanisms cannot be sufficient on a stand-alone basis. Therefore some other authors have argued that financial participation should be supplemented with either participation to decision-making (Levine & Tyson, 1990) or scale reduction (Bowles, Gintis & Gustafsson, 1993) in order to develop trust within the corporation, trust being a key concept in the process of reducing opportunism (Frank, 1988, Sugden, 1993).

Other authors emphasize the role of management in developing a corporate culture that emphasizes company spirit, promotes group cooperation and encourages social enforcement mechanisms (Weitzman & Kruse, 1990). It is particularly important to develop the corporate culture and the company spirit if financial participation is organised on a subgroup-level, in order to avoid a contra-productive competition between the different subsidiaries of a same corporation, but more generally the corporate culture will be an important element to prevent employees allowed some share of decision-making power from making decisions "that trade off organizational productivity in favor of their individual welfare via working conditions and reduced effort" (Ben Ner & Jones, 1995: 542). The importance of "firm-level employee relations, human resource policies and other circumstances" affecting the corporate culture does also emerge from empirical research (Kruse & Blasi, 1995: 1). Among the human resources practices supporting an ethos of responsibility - a sense of ownership - at work , Kruse and Blasi suggest the reduction of middle management and supervisory personnel, the introduction of work teams, task enrichment, training in individual skills and group problem-solving techniques. Another suggestion is to ensure that the time-horizon of the employees is long enough: Weitzmann & Kruse (1990) have shown that if the employees expect to be employed for an indefinitely long time, they could have strong incentives not to display shirking behaviour.

Of course, trust and ownership culture are not only a solution to the 1/N problem, but also to the prisoners' dilemma facing employees and managers. Trust is even a prerequisite for successful PDM. Participation on the work floor may bear less immediate consequences for the company, but it requires workers to have the highest degree of trust in the managers, since the evolution of productivity on the workfloor, positive or negative, can have a tremendous impact on decisions regarding the future size of the workforce. Inversely, participation to strategic decisions requires managers to have the highest degree of trust in the workers, since it implies them to delegate a significant amount of decision-making power to the workers, on a lasting basis.

In spite of the interdependence between financial participation and PDM, the vast majority of academic authors and business consultants continues to treat financial participation and PDM as if they were separate issues (Black & Gregersen, 1997; Festing et al., 1999). Therefore, the theoretical models offered in the literature are attemps to understand the processes underlying either financial participation or PDM, but rarely both. Researchers have described various links that could exist between participation and company profits, either direct or indirect: optimised information flows, employee satisfaction and morale, increased cooperation, direct financial incentives, etc. (Erez, 1993; March & Simon, 1958; Argyris, 1957).

In this paper we would like to emphasise the link existing between participation and company profitability through the development of **organisational social capital**, which we define as "resources embedded within, available through, and derived from the network of relationships" possessed by an organisation (Nahapiet & Goshal, 1998: 243). We would like to emphasise this particular element because we think that social capital is a particularly well suited conceptual tool to integrate the effects of PDM and financial interaction.

The definition of social capital provided above allows us to make a very clear distinction between (organisational) *social* capital and *human* capital, the latter referring to the (potential) skills possessed by the organisation's members, or between social capital and *intellectual* capital, the latter referring specifically to the creative skills and innovative potential of the organisation. "Social capital" puts the emphasis on the potential or effective *co-operation* between the organisation's members by facilitating the action of individuals *within* a structure (Nahapiet & Goshal, 1998; Coleman, 1990).

Leana & Van Buren (1999) suggest associability, instrumental trust, relational trust and generalised trust as the four key elements of social capital. According to Nahapiet & Goshal (1998) organisational social capital includes three elements: a structural one - **network ties**; a cognitive one - **shared vision**, values and paradigm; and a relational one - including mainly **trust**, but also norms and expectations. They make the further distinction between instrumental trust, relational trust and generalised trust. We will use the more comprehensive classification scheme suggested by Nahapiet & Goshal, but we will use a slightly different terminology, in order to avoid the possible confusion between a *structural* element pointing at *relationships* and a *relational* element pointing at the quality of those *relationships*: we will refer to a *structural* dimension, a *cognitive* dimension and a *behavioral* dimension. Those three elements are deemed necessary for a network to achieve its function.

The structural element is obviously relevant: when people occupying different positions in a network do not have any opportunity to direct or indirect communication, they will not be able to join strengths in order to serve the organisation.

The behavioral element, i.e. trust, has been the focus of an impressive amount of academic research these last years and has been given many different definitions (Zand, 1972; Gambetta, 1998; Fukuyama, 1996; Mayer *et al.*, 1995). Common features of these different definitions are risk and vulnerability: when the trustor choses to trust the trustee, he accepts to become vulnerable by the trustee in the sense that the trustor runs a risk that he is unable to hedge fully. Hence, if the trustee breaks his promise, the trustor will stand to loose something without any chance to recover fully what has been lost. When relationships within an organisation are characterised by a high level of trust, "people are more willing to engage in social exchange in general, and cooperative interaction in particular." (Nahapiet & Goshal, 1998: 254). However the study of trust is complicated by the fact that it is considered "both an antecedent to and a result of successful collective action." (Leana & Van Buren, 1999: 542)

The shared vision refers to the extent to which workers and management acknowledge the existence of shared desires and common goals. That element is important because it is a pre-condition for sharing knowledge. In participative firms, the shared vision is related to the concept of *ownership culture*, that appeared recently in academic literature (Ownership Associates, 1998). There still does not exist something like a "standard definition". However, the intuition underlying the concept is fairly straightforward: an ownership culture is a corporate culture that encourages workers to think an act as owners of their corporation. This means primarily that they will feel responsible for their corporation's present and future performance and that they will behave accordingly. Hopefully, it is clear to the reader that concepts like trust, power and ownership culture are deeply intertwined with each other. Trust implies some vulnerability, hence that the trustee at least potentially acquires some power on the trustor. The ownership culture can only materialise itself if the workers are given some degree of responsibility, hence of decision-making power. Hence the (re-) distribution of power will lie at the basis of our empirical dictinction between weak and strong forms of participation (cfr. infra).

Theoretically, it is possible to establish several links between participation and social capital: indeed, Nahapiet & Goshal discuss four organizational factors that affect the development of social capital by shaping the social relationships: time, interdependence, interaction and closure; it is obvious that participation has an impact on these four factors.

1. It takes time to build social relationships, particularly a trusting relationship. Therefore the *continuity* in social relationships, the stability and durability of these relationships are associated with high levels of trust and cooperation. Participation is a factor of stability in

organisations: empirical research often tends to show that both financial participation and PDM are associated with lower turnover among the workforce (Kruse & Blasi, 1995; Pearson, 1992). If participation takes the form of employee ownership, then it can also help the development of a stable shareholder group that can in turn develop long term relationships with the corporate board (Lambrechts & Van Steenbergen, 1999). Therefore, participation can be argued to be potentially associated with high levels of continuity.

2. High levels of social capital are usually developed in contexts characterized by high levels of mutual *interdependence* between the different members of the organisation. PDM, being a matter of sharing decision-making power, has a straightforward impact on interdependence. The more power is shared, the more people from different organisational layers have to be consulted before a decision is taken. Therefore, PDM can be argued to be associated with a high level of interdependence. The case for financial participation is straightforward: when individual rewards depend on collective efforts, these rewards are obviously interdependent.

3. Social relationships cannot be maintained without social *interaction*. Therefore, a high level of interaction is a necessary condition for the development of social capital. There are in most firms a myriad of opportunities for interaction, formal or informal, during meetings, performance appraisals or social events, etc. However, one form of interaction is likely to be more intensive in participative firms: it is the interaction needed to coordinate one's activities. In traditional firms, coordination is achieved through the formal hierarchy, and interaction is limited to top-down interaction between superordinate and subordinate. In contrast, in participative firms, a greater part of the coordination tasks is achieved horizontally by the workers themselves, on all levels in the firm, thereby multiplying the opportunities for interaction. This is also true of firms operating in dynamic environments characterised by high levels of uncertainty, change and innovation. However, these are precisely the kinds of firms that is expected to benefit most from high levels of participation. Therefore, PDM can be hypothesised to increase social interaction. The same can be assumed about financial participation, when it is true that financial participation increases workplace cooperation (Kruse & Blasi, 1995).

4. The last factor identified by Nahapiet & Goshal is *closure*, which they define as "a sense of ideological boundary that distinguishes members from non-members'" (Nahapiet & Goshal, 1998: 258). It seems reasonable to assume that members of participative organisations have a stronger sense of their collective identity than members of more traditional corporations, and are consequently characterised by a higher level of closure. Indeed, this closure is often used as an argument by opponents of participation, who claim that the employees of participative corporations would neither be open to technological progress, nor to new workers (sic). Therefore, participation can be hypothesised to increase closure.

Some of these links will be investigated in the second part of this paper. However, before we present that empirical investigation, we will consider some contingencies of participation that have lead to the definition of our survey population.

I.4. UNDER WHAT CIRCUMSTANCES IS PARTICIPATION TO BE RECOMMENDED?

Participation is more likely to be effective in the following circumstances:

1) When the workers have degrees of higher education or are highly trained, because these workers are likely to better understand operational and financial constraints and to come up with better suggestions to improve the efficiency of their corporation (Heller, 1991).

2) When the corporation faces a retention problem. This is particularly the case in sectors where the demand of labour exceeds the offer of labour. Indeed, when there is a shortage of labour, firms will compete in order to attract competent workers, and workers are more likely to switch from one company to another (so-called job-hopping). Corporations can also face retention problems when they provide the workers with specific but transferable training. Both occurences are more likely when the workforce is highly educated, because highly educated workers have a higher mobility and a better understanding of the market mechanisms. In this context, participation can be used as an instrument to reduce turnover (Buchko, 1992).

3) When the firm evolves in a dynamic environment. In the literature about financial participation, the fact that profit sharing or share ownership should be integrated in the company-wide human resources strategy is emphasised. Since profit sharing and share ownership are variable pay systems, they are particularly suited to firms evolving in a dynamic environment and therefore requiring a high degree of functional flexibility (Festing et al., 1999). The kind of technology used by the firm and the task complexity also have an impact on the presence of financial participation schemes. Festing et al (1999) have found a link between job enrichment and financial participation. This can be explained either by the flexibility required by some kinds of technology and work organisation, e.g. enriched tasks or just-in-time operations management, or by the greater responsibility borne by the individual employee within particular technological and organisational settings, which increases the potential gains of an adequate incentive structure.

The relationship between the *size of the company* (measured by the number of employees) and participation has often been investigated, but the literature about the impact of this variable is not consistent: on the one hand, the efforts of employees in small and medium-sized enterprises are more closely linked with the company results (Kruse & Blasi, 1995), but on the other hand, financial participation is more likely to be found in larger companies (Merckx & Van Den Bulcke, 1992). The stock of these companies is often publicly traded and valued on stock markets, which makes the impact of share ownership more transparant to the workers-owners (Festing et al., 1999); however, this is of lesser significance for profit-sharing schemes. In addition, large companies have fully developed financial and human resources departments, that are more likely to introduce innovative decision-making procedures and reward schemes.

Part II: An empirical analysis of participation and social capital

II.1. SURVEY POPULATION AND SAMPLE

A written survey was carried out between november 1999 and february 2000. A questionnaire was sent to all Belgian companies employing at least 50 people and active in one of the following sectors: banking, insurance, computing and chemicals. 273 Companies were selected in this manner.

The choice of the four sectors in which our survey has been made was guided by our expectation that both PDM and financial participation would be a more frequent occurrence in these sectors. This expectation is based on the theoretical arguments exposed above (see § I.4) and on the findings of previous surveys. Festing et al. (1999) report early studies in Germany showing that a higher level of financial participation was found in banking and insurance, as well as in the public utilities organizations. Another international study has shown that financial participation was more common in the financial, distribution and high-tech sectors, as well as the sector of corporate services (Vaughan-Whitehead, 1995). In a large-scale survey done in the Belgian context, financial participation was most often encountered in the banking and insurance sector, in the chemical sector, the oil sector and the computers and software sector. (Merckx & Van Den Bulcke, 1992). These are sectors which are highly profitable (chemical and oil), in which the international competition is very strong (banking and insurance), or that employ a highly qualified workforce (computers and software). The reason why we did not include the oil sector in our survey is the rather limited number of firms operating in this sector in Belgium, especially in the light of the recent merger movements in this industry.

Out of the 273 sent questionnaires, 62 (22.7%) were returned. These questionnaires have been answered by human resources managers, more than 50% of these managers being also members of the board of directors of their corporation. In addition, some data has been gathered from non-respondents by phone. 82 companies (30.0%) collaborated to this phone survey. Hence we have at least some information about 52.7% of the survey population.

The proportion of respondents active in each sector approximates closely the population distribution (see Table 1). The proportion of respondents having a scheme of financial participation is slightly higher than (but not significantly different from) the proportion of phone respondents having a scheme of financial participation. The proportion of non-respondents having such schemes is unknown. It could be somewhat lower, but there are no clear indications that this would be the case. On the contrary, there is a clear indication that small firms are under-represented in our survey sample when compared to the phone sample. One obvious reason is that small firms often don't have structured human resources departments, with the consequence that nobody feels comfortable or is ready to devote some time to answer a questionnaire addressed to human resources managers.

	Full population	%	Survey sample	%
Banking	53	19.4 %	16	25.8 %
Insurance	44	16.1 %	11	17.7 %
Computing	98	35.9 %	20	32.3 %
Chemicals	78	28.6 %	15	24.2 %
Total	273	100 %	62	100 %

Table 1: Survey population and survey sample

The reader should bear the two following caveats in mind while reading this section about the empirical results. First, though the response rate is satisfying and compares positively to response rates on other comparable surveys, the absolute number of corporations which took part to this survey is rather small. Consequently, statistical estimates should be considered with care. We will rely more upon significance and magnitudes than upon exact coefficient estimates. In addition, these results should not be generalised without great caution to corporations that were not included in the survey sample. However, this does not mean that the results that will be exposed here are only valid for those corporations that were included in the sample: the relationships that are found here are likely to be found, though not in all corporations, at least in other random samples generated from the same population.

Secondly, our questionnaire has been filled only by one manager in each company. Hence the answers may be biased, though we do not have reasons to suspect that this would seriously affect the results of our analyses. In order to have the real picture of what's going on in the different companies surveyed, we should be able to gather some information from workers' representatives; this will be part of further research.

II.2. PARTICIPATION MEASURED

First of all, we will give an overview of the occurrence of different forms of financial participation and PDM within our sample.

II.2.1. Financial participation measured

In the following table you can see how many respondents have one or several schemes of financial participation. Though financial participation is a slightly more frequent occurrence in the computing sector and a slightly less frequent occurrence in the chemicals sector, the differences are not statistically significant (the minimal significance level of pairwise comparisons measured by the Tukey method is 0.660). This means that the small number of respondents do not allow us to generalise the small differences found in this sample to a larger population.

	Banking	**Insurance**	**Computing**	**Chemicals**	**Total**
No financial participation	9	6	8	10	32
One scheme of FP	6	5	10	5	26
Several schemes of FP	1	0	2	1	4
Total	16	11	20	15	62

Table 2: Financial participation - Frequencies

In the next table you can read that shares savings plans and profit-sharing schemes are the most frequently occuring forms of financial participation. The total number of schemes is irrelevant here because some companies apply several kinds of financial participation, and because some schemes apply to management and to other workers while other schemes apply only to one of these groups. It does not appear that particular schemes are preferred by particular groups - e.g. that stock options would be given only to top executives.[5]

	management	**white-collar and blue-collar**
free shares	2	1
shares savings plan	9	8
stock options	5	3
profit sharing	16	10

Table 3: Different schemes of financial participation - Frequencies

In addition, we can note that 22 out of the 32 corporations without any program for financial participation claim that they would initiate such a program if there existed a safe regulatory (tax) framework. Other important reasons why some companies do not have any program for financial participation are a decision made by the mother company and the fact that the stock of the corporation is not traded on the stock exchange (sic). This last argument is somewhat contradicted by the observation that out of the 30 companies that have effectively set up financial participation, almost one half is not traded publicly neither directly nor indirectly (through the mother company). The risk of a declining stock market and the attitude of the labour unions are considerations of lesser importance.

[5] The questionnaires have been sent immediately after the publication of the law regarding stock options (28.10.1999). Consequently, the use of such schemes may have become more frequent since then.

II.2.2. PDM measured

PDM has been measured as an answer to two questions. First, how much influence do the workers have on decisions made regarding a series of eight different issues? The eight issues listed in our questionnaire were: (1) job design and job description, (2) distribution of tasks between the members of a same functional unit, (3) work circumstances, (4) terms of employment, (5) simple hrm decisions, (6) strategic decisions and investments, (7) product development, (8) allocation of profits. Secondly, through what channels is this influence exercised? Eight channels were listed in our questionnaire: (1) workers' councils, (2) union delegates, (3) health and safety committees, (4) quality circles, (5) workers' representatives in the board of directors, (6) autonomous work teams, (7) other channels involving blue-collar workers, and (8) other channels involving white-collar workers (e.g. task forces, hrm committees, or informal communication). Influence was measured on a 6-items scale:

1	workers have no influence at all
2	workers receive some information, either ex ante or a posteriori
3	workers' advice is gained before the decision is taken
4	the decision is the output of a dialogue between management and workers
5	workers have a veto-right concerning those decisions
6	workers have full decision right

Table 4: PDM measurement scale

A grid has been set up where all the possible combinations (issue/channel) are summarised. In the following table, you can see the average score for each issue, through each channel (standard deviations between brackets).

Channel / Issue	Workers' council	Unions	Health and safety committee	Quality circles	Delegate on the board	Autono-mous teams	Blue-collar workers	White-collar workers
jobdesign and job description	1.48 (0.82)	1.52 (0.86)	1.26 (0.69)	1.31 (0.84)	1.17 (0.67)	1.51 (1.21)	1.44 (0.97)	2.24 (1.34)
task assignments	1.36 (0.79)	1.36 (0.74)	1.26 (0.66)	1.28 (0.81)	1.17 (0.75)	1.59 (1.33)	1.47 (1.10)	2.42 (1.42)
job circumstances (health, safety)	2.10 (1.29)	2.24 (1.37)	2.67 (1.39)	1.33 (0.93)	1.25 (0.92)	1.71 (1.30)	1.54 (1.09)	2.36 (1.27)
terms of employment (salary)	2.09 (1.39)	2.29 (1.44)	1.57 (1.11)	1.19 (0.72)	1.25 (0.86)	1.49 (1.02)	1.34 (0.80)	1.90 (1.12)
hrm	1.50 (0.80)	1.43 (0.88)	1.21 (0.59)	1.29 (0.99)	1.15 (0.66)	1.63 (1.32)	1.29 (0.74)	2.03 (1.19)
strategic decisions and investments	1.55 (0.57)	1.22 (0.46)	1.22 (0.46)	1.19 (0.76)	1.34 (1.15)	1.42 (1.07)	1.17 (0.50)	1.47 (0.75)
product development	1.43 (0.60)	1.21 (0.49)	1.21 (0.52)	1.33 (0.98)	1.24 (0.90)	1.46 (1.10)	1.22 (0.62)	1.64 (0.94)
allocation of profits	1.26 (0.52)	1.09 (0.39)	1.03 (0.18)	1.12 (0.70)	1.22 (0.87)	1.15 (0.55)	1.08 (0.34)	1.17 (0.53)

Table 5: PDM per issue and per channel - Average scores

Though the highest score in Table 5may appear to be quite low (2.67), the reader should remember that a score of "0" means either that one particular channel has no influence on one particular topic, or that this particular channel does not exist. As the following table shows, some channels are present more often than others, and this does have an influence on the average influence exercised by each channel.

	Occurence	Average influence	Average (valid answers)
White-collar workers	62	1.89	1.89
Health and safety committee	41	1.44	1.63
Workers' council	36	1.60	1.99
Union delegates	34	1.55	1.96
Autonomous teams	15	1.49	2.88
Quality circles	11	1.25	2.34
Blue-collar workers	10[6]	1.31	1.76
Representatives on the board	7	1.22	2.73

Table 6: PDM Channels - Occurrence and average influence

Therefore we show hereafter the same results that are shown in Table 5, but taking only the valid answers into account (standard deviations between brackets).

Channel / Issue	Workers' council	Unions	Health and safety committee	Quality circles	Delegate on the board	Autono-mous teams	Blue-collar workers[7]	White-collar workers
jobdesign and job description	1.83 (0.94)	1.91 (0.97)	1.39 (0.80)	2.64 (1.29)	2.29 (1.60)	2.93 (1.75)	2.00 (1.33)	2.24 (1.34)
task assignments	1.64 (0.96)	1.65 (0.88)	1.39 (0.77)	2.45 (1.37)	2.43 (1.81)	3.33 (1.72)	2.50 (1.78)	2.42 (1.42)
job circumstances (health, safety)	2.86 (1.20)	3.21 (1.09)	3.44 (0.98)	2.73 (1.49)	2.71 (1.98)	3.60 (1.12)	2.30 (1.42)	2.36 (1.27)
terms of employment (salary)	2.75 (1.40)	3.29 (1.17)	1.80 (1.25)	2.00 (1.41)	2.86 (1.77)	2.80 (1.26)	1.80 (1.14)	1.90 (1.12)
hrm	1.81 (0.89)	1.74 (1.05)	1.29 (0.68)	2.55 (1.86)	1.86 (1.46)	3.27 (1.67)	1.60 (0.97)	2.03 (1.19)
strategic decisions and investments	1.89 (0.46)	1.38 (0.55)	1.34 (0.53)	2.00 (1.55)	3.86 (2.12)	2.67 (1.59)	1.40 (0.52)	1.47 (0.75)
product development	1.69 (0.62)	1.35 (0.60)	1.29 (0.60)	2.73 (1.68)	3.00 (1.91)	2.80 (1.57)	1.50 (0.85)	1.64 (0.94)
allocation of profits	1.42 (0.60)	1.15 (0.50)	1.05 (0.22)	1.64 (1.57)	2.86 (1.95)	1.60 (0.99)	1.00 (0.00)	1.17 (0.53)

Table 7: PDM per issue and per channel - Average valid scores

[6] This figure represents only corporations active in the chemicals sector that have production facilities and workers in Belgium, which amounts to 10 out of the 15 corporations active in this sector.
[7] See footnote 2.

Looking at Table 7, we can note that on average, strategic PDM is by far the least developed kind of PDM, the allocation of profits being itself the issue on which workers have the least influence. There are, however, some exceptions: some quality circles have a significant impact on product development, as well as autonomous teams, and the latter have some say regarding hrm decisions, but on the whole workers' delegates on the board have the most influence on strategic issues. Moreover, PDM is most often exercised either through white-collar workers' councils or through unions and mandatory councils, though unions' and workers' councils' influence does not reach farther than job circumstances and terms of employment. However, in most cases they have some sort of a monopoly on these issues, except when strong autonomous teams are active within the corporation. In a few cases, members of quality circles, workers' representatives in the company board and autonomous teams do indeed have very much decision-making power, certainly more than the unions have. These observations are confirmed by the average scores computed for the influence exercised by the different channels (see Table 6).

There are also some differences between the four sectors: white-collar workers have the most influence in the computer sector and in the bank sector. In the insurance sector, there are more workers' delegates in the board than in any other sector, while the chemical firms have the most autonomous teams, which is not surprising for they are the only firms in our sample to have production teams. Workers' councils are important in all sectors except the computer sector, which may be due to the relative smaller size of these corporations.[8] In order to give the reader more insight into the differences between sectors, we reproduce here Table 6, broken up on a sectoral basis (the most striking figures have been highlighted):

	Banks	Insurance	Computing	Chemicals
Workers' councils	1.46	1.83	1.43	1.82
Union delegates	1.37	1.68	1.26	2.02
Health and safety committee	1.43	1.44	1.22	1.69
Quality Circles	1.26	1.38	1.32	1.08
Representatives on the board	1.24	1.44	1.10	1.20
Autonomous teams	1.23	1.36	1.80	1.49
Blue-collar workers	1.29	1.44	1.10	1.52
white-collar workers	1.76	1.94	2.00	1.87

Table 8: PDM Channels - average influence in the four different sectors

It came as a surprise to us to observe that the extent to which mandatory councils allow the workers (or their representatives) some influence on issues like work circumstances and terms of employment is one of the most volatile variables - as measured by standard deviations. We interpret this observation as follows: the participative culture is the primary factor influencing PDM, even when PDM is mandatory: participative firms will turn mandatory PDM, whether mandatory or voluntary, into a powerful instrument for dialogue between management and workers, while more autocratic firms are able to minimise the impact of even mandatory PDM.

An ANOVA of the average PDM scores in the four different sectors, broken up according to the different issues and according to the different channels, allows us to get additional and

[8] Though there are no systematic differences between the different sectors regarding the size of the corporations, we assume that many software companies have known a more rapid growth than firms in other sectors, hence that five years ago, at the time of the last social elections, they still did not employ the minimal number of employees (100) that makes it mandatory to set up a workers' council.

more precise information.[9] Institutionalised PDM (union delegates and health and safety committees) is much more developed in the chemicals sector than in the banking and computing sectors. Workers in the insurance sector have the most freedom w.r.t. jobdesign, while the workers in the computing sector occupy a middle position. Workers in the chemicals and the software sector have the most influence on task allocation, while workers in the banking sector have the least influence. Finally, workers in the insurance sector have much more influence on their terms of employment than workers in the banking sector. On the whole, the insurance sector allows its workers to exercise slightly more influence (on most issues) than the other sectors, computing sector included. It also appears that the bank sector is somewhat less participative (again on most issues).

In order to distinguish between participative and non-participative firms, we have aggregated the figures shown in Table 5 as follows: at first, for each corporation, we have taken the maximum score in each row; secondly, we have computed the average of these maximum scores. The resulting averages are shown below in Table 9 (standard deviations between brackets). The rationale behind this approach is that we wanted to have some measure of the effective influence workers in each firm have on each particular topic; whether this influence is exercised through workers' councils or through delegates on the board is in this context of lesser importance (the information contained in Table 6 and Table 8 already allows the reader to make some comparison between the different channels of participation).

	Average influence on each issue
jobdesign and job description	2.98 (1.37)
task assignments	2.93 (1.53)
job circumstances (health, safety)	3.54 (1.21)
terms of employment (salary)	3.13 (1.35)
hrm	2.67 (1.49)
strategic decisions and investments	2.31 (1.41)
product development	2.39 (1.39)
allocation of profits	1.67 (1.19)
global PDM index	2.71 (1.04)

Table 9: PDM - Overall average influence per issue

Based on the scores summarised in Table 9, we conducted a cluster-analysis between the variables representing participation to the different issues.[10] That analysis supported the a priori established distinction between PDM on the workfloor, PDM on social issues and strategic PDM by stressing, first, the links existing between the issues of work circumstances and terms of employment (social issues), next, the links existing between decisions concerning investments, products, hrm and profits (strategic issues), and finally the link

[9] The results are reproduced in Appendix 1. All pairwise comparisons are reproduced when at least one pairwise difference reaches a significance level of 0.05.
[10] See Appendix 2.

between the issues of job design and task distribution (workfloor issues). This last link was the most fragile, job design being also linked with work circumstances. Based on these results, four indices of PDM were devised: an index for PDM on the workfloor, an index for PDM on social issues, an index for strategic PDM and a global PDM index. These four indices are simply weighted averages of the scores found in Table 5, hence they also range from 1 to 6, 1 being the weakest and 6 the strongest possible result.

II.3. PARTICIPATION, WEAK AND STRONG

As a next step after measurement, we wished to consolidate the various forms of participation discussed above and introduce a distinction between weak and strong forms of participatory arrangements. The introduction of such a distinction will undoubtedly lead to the loss of some information about the different participation schemes developed by the respondents. However, it will also allow us to aggregate the different cases and draw more general conclusions about participation as a business philosophy, rather than about this or that piece of participation legislation. Theoretically, we would like to define weak forms of participation as forms of participation that leave the power structure in the organisation unchanged. Inversely, strong forms of participation would be those that redistribute decision-making power within the organisation. This theoretical distinction can be applied to PDM and to financial participation as follows.

Theoretically, a strong ***PDM*** company would be a company of which the workers have at least some formal co-decision right or veto-right on any particular kind of issues, wether through various fora and councils, representative bodies or by direct involvement. An additional condition would be that PDM is not restricted to that particular issue, but extends to a broader range of issues. However, even if the workers of a particular company do not have full decision rights on any issue, there could exist a "participative culture" in that company. Since we do attach some importance to that culture, we would allow corporations with a sufficiently high average level of influence to be included within the "strongly participative" group. Therefore we applied the following decision rule: a company has strong PDM if *either* the workers have at least some formal co-decision right or veto-right on any particular kind of issues (at least two scores of 5 in Table 5) *and* the global PDM index is at least 2.75, *or* the global PDM index is at least 3.5 (see Table 9).

Seven corporations satisfied the first criterion, while twelve corporations satisfied the second criterion (score > 3.5). This second criterion appeared to be particularly robust, since all the seven corporations that satisfied the first criterion also satisfied the second one. In addition, the global PDM index being computed as a weighted average, it is only very weakly sensitive to small changes in the various participation scores per issue and per channel. Hence the second criterion was considered as the *only relevant criterion*. Subsequently global PDM index of 2.75 was taken as the criterion to define "weak" PDM. All the companies who have a global PDM index below 2.75 were labelled as "no PDM" (note that the overall average is 2.71). In table 8 you can find the figures about PDM in the survey sample. Again there is no relationship between the strength of PDM and the sectors in which the corporations are active.

	frequencies	**percent**
no PDM (x < 2.75)	28	45.2%
weak PDM (2.75 < x < 3.5)	22	35.4%
strong PDM (x > 3.5)	12	19.4%

Table 10: Weak and strong PDM - Frequencies

One could argue that if the criterion used to distinguish between weak and strong forms of PDM is the extent to which different schemes of PDM lead to an effective redistribution of power, then strategic PDM would by nature be a stronger form of PDM than PDM on social issues, which would in turn be stronger than workfloor PDM, since these three kinds of PDM involve sharing power at different levels in the organisation, that are hierarchically subordinated to each other. Hence the question could be raised wether the various aspects of PDM on the workfloor, PDM on social issues and strategic PDM should not be weighted differently when computing our "global PDM index". There are two reasons why we have chosen to compute an unweighted index.

The first one is that all three kinds of participation are required for a genuine "participative culture" to be developped. This argument has been a posteriori supported by the data: the PDM scores to the eight issues are highly and almost equally correlated with each other, just as the scores for the three kinds of PDM (see Table 11). This tends to indicate that there exists something like a "participative culture".[11] The somewhat stronger correlation between PDM on the workfloor and strategic PDM provides additional support for the "participative culture" argument, since these two types of participation are voluntary and are therefore better indicators of the "culture" of the organisation than the existence of mandatory participation schemes.

PDM:	**Workfloor**	**Social issues**	**Strategic**	**Mean score:**
Workfloor	1			3.06
Social issues	0.509*	1		3.48
Strategic	0.579*	0.503*	1	2.33

* correlation significant at the 0.01 level

Table 11: Correlations between different types of PDM

The second reason is that all three kinds of PDM can be assumed to have a significant influence on the development of the different components of social capital. Both strategic PDM and a harmonious PDM on social issues are antecedents of a trust climate within the company, while workfloor PDM may be more important to enhance communication, since it involves (at least potentially) all workers, while PDM on both strategic and social issues is most often exercised through workers' representatives. In addition, all three kinds of PDM can be assumed to be conducive to the development of a shared vision. A tentative test of this assumption will be addressed in § II.4.

Another question concerns the number of workers involved with those different PDM initiatives. Just as in the case of financial participation, we would expect a participative culture to develop only when a large majority of workers is involved. Unfortunately, it was not possible to investigate this with our data, because most kinds of formal PDM are indirect, i.e. involving workers' representatives, either voluntary or elected. Therefore, it was not possible to draw any clear conclusion about the number of workers involved.

Unlike PDM, ***financial participation*** is not an obvious instrument to redistribute power within an organisation. However, we think that some kinds of financial participation can *support* mechanisms of power redistribution, while other kinds of financial participation can be a hindrance to those mechanisms. Theoretically, capital participation can support power redistribution mechanisms through the voting power associated with share ownership.

[11] This observation provides also a posteriori support for the criterion used to distinguish weak and strong forms of PDM: what counts is rather the broader picture than the scores on one particular issue.

Nevertheless we think that individual share ownership has to be mediated by a workers' cooperative or some other analogous body for this share ownership to be meaningful, since the vote of individual workers will have virtually no incidence on decisions taken at the general meetings (though the ownership of one single share may be enough to submit proxy resolutions). However, taking the unfavourable Belgian context into account, we consider any initiative taken to develop capital participation to be a sufficient indication of the participation-mindedness of management, provided that this initiative extends to all the workers, and not only to managers or top employees. For the same reason, we consider company-wide schemes of profit-sharing to all workers, based on collective performance indicators, to be strong forms of financial participation. Though such kinds of profit sharing cannot be said to support directly power redistribution, they can be said to encourage individual initiative and responsibility, and also cooperation between individuals in order to enhance collective performance. In other words, they support the development of an ownership culture, and of social capital.

Therefore we applied the following decision rule: a company has strong financial participation **either** if capital participation extends to all workers, **or** if profit sharing based on collective performance indicators extends to all workers. The results are shown in Table 10. These results are not broken down according to sectors, because there are no significant differences.

	frequencies	**percent**
no fp	32	51.6 %
weak fp	17	27.4 %
strong fp	13	21.0 %

Table 12: Financial participation - Frequencies

It is noteworthy that there is a significant positive correlation (Pearson correlation 0.341, significant at the 0.01 level) between the size of the workforce and the presence of respectively no, weak or strong financial participation. This indicates that financial participation schemes are a significantly more frequent occurrence in larger firms than in smaller firms. There is no similar linear relationship between the size of the workforce and the global PDM index. Further, there is no *linear relationship* (Pearson correlation –0.074, significant at the 0.582 level) between PDM and financial participation. This may be due to the weak linearity of indicators comprising only three values: no/weak/strong. However, there is nonetheless a clear *non-linear relationship* between PDM and financial participation: while "*no PDM*" seems to be related with "*no financial participation*", there seems to be a "trade-off" between *strong PDM* and *strong financial participation*; indeed, there are only two corporations with both strong PDM and strong financial participation, while 13 corporations have either strong PDM and weak financial participation or strong financial participation and weak PDM.

	no PDM	**weak PDM**	**strong PDM**
no fp	16	11	4
weak fp	7	4	6
strong fp	4	7	2

Table 13: Cross-table between financial participation and PDM

There is a paradox here, because the respondents claim not to consider financial participation and PDM as substitutes. We don't have a ready answer to that paradox, but it may be more important to understand why strong financial participation and strong PDM could be

substitutes. One element of the answer has already been given above: strategic participation and strong financial (capital) participation are *de facto* two different ways to achieve one same result: to involve the workers to the strategic evolution of the corporation. Hence it is not necessary to have both strong financial participation and strong PDM; however, it is definitely necessary to have some PDM in order to complement strong financial participation, and vice-versa.

II.4. PARTICIPATION AND SOCIAL CAPITAL

We asked our respondents to indicate the objectives of their human resources policy. They indicated several objectives: good relationships between management and workers, commitment, productivity and trust. But whichever objective has the priority, it appears from our data that social capital is - according to those human resources managers - the first key to the development of a corporation's human resources. Indeed, a good atmosphere and teamwork are the two things that contribute the most to the corporations' objectives regarding human resources management, out of a list of 25 items[12]. Work atmosphere and teamwork are closely related with social capital because they are necessary conditions for successful co-operation, while social capital is essentially a measure of the potential for successful co-operation: "In organizations strong in social capital, mutual commitment is characteristic of (...) relationships among organizational members." (Leana & Van Buren, 1998: 549).

These two factors are followed immediately by variables representing "intellectual capital": continuous learning, and highly educated workers. Fifth comes the autonomy granted to workers, which is essential to the development of "participative culture". An element like "salary", though it is acknowledged to be important by most respondents, lags significantly behind, and does appear less important than the quality of the relationship one has with his hierarchical superior.

	Mean score	Std. deviation
Work atmosphere	1.77	0.76
Teamwork	1.90	0.93
Continuous learning	1.92	0.89
High education	2.03	0.97
Autonomy at work	2.06	0.81
Relations with superior	2.12	0.83
Salary	2.15	0.79

Key:

1: very high importance
2: high importance
3: average importance
4: very little importance
5: no importance at all

Table 14: Most important factors of a successful human resources management (extracts from a list of 25 items)

In addition, the genuine importance of teamwork is supported by the difference between the mean scores of two other indicators: though human resources managers deem it important to follow up individual workers closely, it is significantly less important for them to measure individual performance (means are 2.32 and 2.56, difference significant at the 0.05 level).

A central question in this paper is whether participation is a suited means to realising the objectives of the respondents' human resources management policy. Since social capital appears essential to realising these objectives, it seems justified to devote particular attention to the link(s) existing between participation and social capital. The theoretical links have already been exposed in section I.4.

[12] See appendix 3.

Empirically, the link between participation and social capital is also emphasised by the respondents. A list of 42 items in which participation could have a positive influence was submitted to them[13], and they had to rate the importance of these 42 items. They consider participation (financial participation and/or PDM) to be primarily a means to:

- stress the importance of corporate objectives,
- enhance the development of a trust climate,
- increase workers' motivation.

Those three items are clearly linked with the trust and shared vision components of social capital. Three other items which participation can help to develop are dialogue and communication, both top-down and bottom-up. Though communication is not a component of social capital *stricto sensu*, it can be viewed both as a sign of a dense network configuration and as an antecedent of the development of a shared vision.

	Mean	Std. Dev.
stress the importance of corporate objectives	1.37	0.56
enhance the development of a trust climate	1.58	0.75
increase workers' motivation	1.60	0.77
dialogue	1.74	0.68
top-down communication	1.87	0.96
bottom-up communication	1.90	0.87

Key:

1: very high importance
2: high importance
3: average importance
4: very little importance
5: no importance at all

Table 15: Most important expected effects of participation
(extracts from a list of 42 items; the 36 other items have mean scores ranging from 1.71 to 4.10 (standard deviations ranging from 0.76 to 1.44).

Hence, we have both theoretical and empirical reasons to assume the existence of several links between participation and social capital. In order to investigate these links empirically, we have to design a scale to measure social capital, or at least the three following components: communication, trust and shared vision.

The structural component of social capital is very difficult to assess when there is only one respondent per corporation, hence it was not measured. However we have asked three questions about *communication*: "To what extent are the objectives regarding top-down communication / bottom-up communication / dialogue realised within the corporation?" The scale composed of those three indicators, though it provides only an imperfect approximation of the real quality of communication within the corporation, has a high reliability (Cronbach's alpha for standardised variables 0.838). Hence is was deemed appropriate as a proxy for "communication".

Five questions were asked about the perception of *trust*: "How good is the trust climate within your corporation?", "How good is the trust management has in workers?", "How good is the trust workers have in management?", "How opportunistic is the management?", "How opportunistic are the workers?" It appeared that managers were (in their own perception) more enclined to trust workers than vice-versa, because the management was also perceived (by a human resources managers who was often himself a member of the board of directors) as being more opportunistic. Further, the "trust climate" appeared to reflect an almost exact average between the trust workers have in management on the one hand, and the trust management has in workers on the other hand. Therefore, and because both kinds of trust are

[13] See appendix 4.

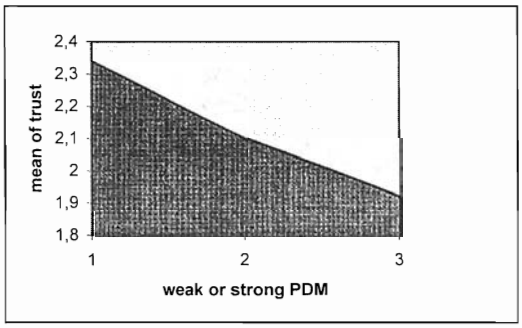
important for the development of participation, the answer to that one question "How good is the trust climate within your corporation?" was taken as the single measure of trust within the corporation.

No question has been asked explicitly about the existence of a *shared vision*. However, three questions allow us to evaluate the existence of a shared commitment, which may be related to such a shared vision: "To what extent is the workers' interest linked with the corporation's objectives?", "To what extent are the workers committed and loyal towards the corporation?" and "To what extent do the workers have a good understanding and a feeling of responsibility for financial issues?". The scale aggregating the answers to these three questions has a moderate reliability (Cronbach's alpha for standardised variables 0.743) that is nonetheless sufficient at this stage. Hence it was used as a measure of the existence of a "shared vision".

It has been said above that participation was seen by the respondents primarily as a means to stress the importance of corporate objectives, enhance the development of a trust climate, and increase workers' motivation. In addition, there are two other issues managers want to improve with participation: on the one hand operational productivity, and on the other hand innovation, information exchange, individual responsibility, creativity, self-development and quality of work life. Innovation and information exchange are clearly related with intellectual capital, but individual responsibility and self-development are characteristic of what one would call the "ownership culture" which is often assumed to develop within participative firms. A reliability analysis provides us with a very highly reliable scale (Cronbach's alpha for standardised items: 0.961) comprising the following three items: "the extent to which workers have room for personal responsibility", "the extent to which workers have room for personal input", and "the extent to which workers have opportunities to develop themselves". When these three items are combined with "the extent to which workers understand and feel responsible for operational issues" and "the extent to which workers understand and feel responsible for financial issues", we have a scale comprising five items with a moderate reliability (0.826) but which is possibly a better index for the "ownership culture". One indicator included in this scale is also included in the "shared vision" scale, hence in the "social capital scale". Consequently we must be cautious about making inferences between these two constructs. However, this should not surprise us these two concept cover partly the same reality, i.e. the extent to which workers are committed to their corporation's objectives.

II.4.1. Participation and trust

The global PDM index is quite significantly correlated with the trust climate within the corporation (pearson correlation -0.267, significant at the 0.039 level). For illustrative purpose only, we show below the relationship between the trust climate and the weak vs. strong PDM index.



PDM Axis: 1 = no PDM, 2 = weak PDM, 3 = strong PDM
Trust axis: 1 = very good trust climate, 2 = good trust climate, 3 = neutral trust climate

Graph 1: Relationship between PDM and trust

When the separate influence of the different kinds of PDM is taken into account, it appears that strategic PDM, though it is the least developed form of PDM, is the most closely linked with trust within the corporation. This link is even the only one significant at the 0.05 level.

	PDM - workfloor	**PDM - social issues**	**Strategic PDM**
Pearson correlation with trust climate	-0.143	-0.078	-0.287
Significance level	0.284	0.561	0.029

Table 16: Correlation between trust and different kinds of PDM[14]

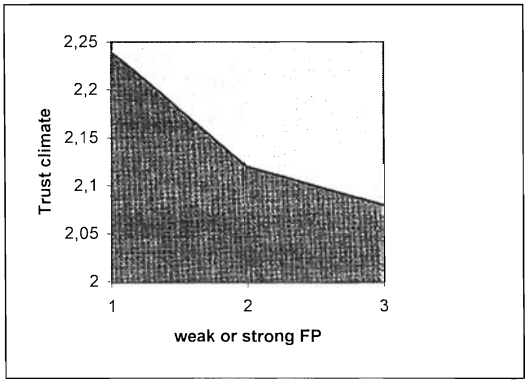
This is surprising at first glance only. Indeed, if workers do have real decision-making power regarding workfloor decisions, but can exert no influence on strategic decisions, that means that their decision-making power is real only in the short term, since in the longer run changing strategic orientations may lead the management to restrict workers' opportunities to participate even to lesser kinds of decisions. The possibility of reverse causality (trust leading to participation) seems unlikely, for the link between strategic PDM and the trust workers put in managers is much stronger than the link between strategic PDM and the trust managers put in workers, while strategic PDM is a decision that can only be taken by the management.

	global trust climate	**trust in workers**	**trust in managers**
Pearson correlation with strategic PDM	-0.287	-0.263	-0.356
Significance level	0.029	0.046	0.006

Table 17: Correlation between strategic PDM and different kinds of trust

[14] These PDM indices were computed according to the methodology explained in § II.2.2.

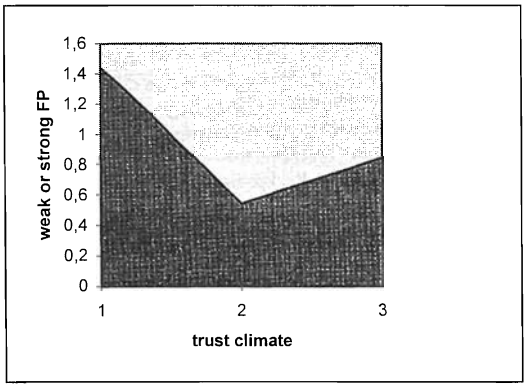
The relationship between financial participation and trust is more complex: though at first glance it is similar to the relationship between trust and PDM (see Graph 2), there is no significant linear relationship between both variables (pearson correlation -0.108, significant at the 0.410 level).



Financial Participation Axis: 0 = no FP, 1 = weak FP, 2 = strong FP
Trust axis: 1 = very good trust climate, 2 = good trust climate, 3 = neutral trust climate

Graph 2: Relationship between financial participation and trust

An explanation for this lack of significance is found when Graph 2 is inverted and trust is put on the horizontal axis (see Graph 3). There is a clear and significant difference (Tukey test significant at the 0.016 level) between the level of financial participation achieved when the trust climate is very good viz. good, but the financial participation index increases again when the trust climate goes from "good" to "neutral". This increase is not really significant (Tukey test significant at the 0.290 level) but large enough to prevent any statistically significant linear relationship between financial participation and trust.

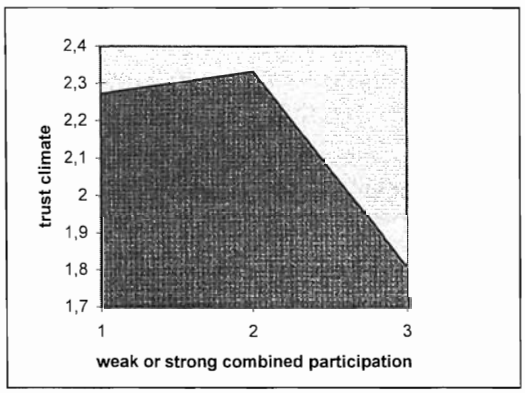


Financial Participation Axis: 0 = no FP, 1 = weak FP, 2 = strong FP
Trust axis: 1 = very good trust climate, 2 = good trust climate, 3 = neutral trust climate

Graph 3: Relationship between trust and financial participation

This bend, though not statistically significant, can be interpreted as follows: though in most corporations financial participation is associated with a good trust climate, in a few companies the management uses financial participation as an instrument to curb opportunism. However, it is allowed to doubt wether this is a good strategy or not, since financial participation schemes that are not designed with the greatest care may cause new problems of opportunistic behaviour (see § I.3).

When we try to combine both results, we need to consider again the important links existing between strong financial participation and PDM. As we have defined it, strong financial participation is either capital participation, or profit sharing based on collective performance indicators, both being extended to all workers. First, these kinds of financial participation cannot be applied without the shareholders' support. Hence the continuity of such participation schemes depends not only upon a management team that can be removed at will by the shareholders. On the contrary, the shareholders themselves warrant the continuity of such participation schemes, at least as long as they do not consider these schemes to jeopardize future profit expectations, which usually they do not. Secondly, when strong financial participation involves (encouraging) share ownership, which is true in 12 out of the 13 cases in the survey sample, it involves a possibility for workers to influence strategic decisions which is protected by the law, as are the rights of any shareholder. This being said, it is not a surprise that different levels of trust are most closely linked with a combined index of PDM and financial participation instead of either the one or the other taken separately (See Graph 4).



Participation Axis: 0 = no participation, 1 = weak participation, 2 = strong participation
Trust axis: 1 = very good trust climate, 2 = good trust climate, 3 = neutral trust climate

Graph 4: Relationship between participation (PDM & FP) and trust

A quick look at this graph should allow the reader to notice that there is a large difference between the participation index of "high-trust" firms on the one hand and the index of "medium-trust" or "low-trust" firms on the other hand. Table 18 provides the absolute mean difference in trust between firms with different levels of participation (significance level computed with the Tukey test for pairwise comparisons between brackets).

	No participation	Weak participation	Strong participation
No participation	0 (0)		
Weak participation	0.06 (0.950)	0 (0)	
Strong participation	0.53 (0.057)	0.47 (0.032)	0 (0)

Table 18: Trust in weak and strong participatory firms

The kink in Graph 4 can be interpreted as indicating that trust and participation have some features of "all-or-nothing" phenomena.

On the one hand, this "all-or-nothing" characteristic can be explained very easily when it is assumed to originate in employees' sense of what "real" participation and "real" decision-making power-sharing mean. Real participation would lead to high levels of trust, while all other forms of participation would not lead trust to increase. When a corporation is not participative at all, distrust will quickly take ground, and this distrust, or lack of trust, will be very difficult to change into a more positive attitude unless sweeping changes are made by the management. When the management initiates some participation, the feelings are mixed: some workers will feel happy that the management takes some steps towards redistributing power and their trust will grow. However, other workers may be aware of the fact that they have not gained real power and fear an opportunistic move by the management. Their trust in managers will tend to decline. On balance, when the management initiates moderate forms of participation, the effect on trust may be nihil. But when the management decides to achieve a real power redistribution in favour of the workers, the workers will immediately perceive this move as a lasting one and fears of opportunism will vanish, allowing trust to reach higher levels.

On the other hand, this "all-or-nothing" characteristic contrasts with typologies of trust developed in the literature. Indeed several authors distinguish several forms of trust, e.g. calculative trust, knowledge-based trust and identification-based trust. These different forms of trust are meant to reflect a progression from weaker to stronger forms of trust. Our data tend to suggest that this "progression" is not a smooth one, but on the contrary that there would be a "break-point" that could possibly lie somewhere between "calculative" trust and "identification-based" trust.

Eventually, though participation and trust appear to be closely related, it is obvious that they are separate constructs: participation is not necessary to achieve a good trust climate (see Table 19 and Table 20).

	weak + strong PDM	no PDM	ratio
(very) good trust climate	26	17	1.53
neutral trust climate	7	10	0.7

Table 19: PDM in high-trust and low-trust firms

	weak + strong financial participation	no financial participation	ratio
(very) good trust climate	21	22	0.95
neutral trust climate	9	8	1.13

Table 20: Financial participation in high-trust and low-trust firms

However, the contrary is not true regarding PDM: very few (strongly) participative firms (in the PDM sense) report a weak trust climate.

	(very) good trust climate	neutral trust climate	ratio
No PDM	17	10	1.7
weak PDM	16	5	3.2
strong PDM	10	2	5

Table 21: Trust in participative firms and non-participative firms

As could be expected from Graph 2, this last result does not hold for financial participation: weak and strong financial participation are found within firms with a high-trust as well as a low-trust profile.

II.4.2. Participation and shared vision

There is a significant linear relationship between PDM and our "shared vision" construct (pearson correlation -0.309, significant at the 0.029 level). When PDM is broken down into strategic PDM, PDM on social issues and PDM on the workfloor, it appears again that strategic PDM is the most strongly correlated with shared vision. But though there is a very small similar linear relationship between shared vision and financial participation, it is not significant at all.

II.4.3. Participation and communication

There is an even stronger linear relationship between PDM and our "communication" construct (pearson correlation -0.418, significant at the 0.002 level). Communication is significantly correlated with all three kinds of PDM. However, there is not the slightest relationship between communication and financial participation.

II.4.4. Participation and social capital

The "social capital" scale was composed of the three items mentioned above: the trust indicator, the communication construct and the shared vision construct. The reliability of this construct (Cronbach's alpha for standardised variables) is 0.796, which is lower than the reliability of the construct composed of the 7 individual indicators used to build the trust, shared vision and communication sub-constructs (0.867). However, the reliability of a construct being quite dependent on the number of indicators used, a construct with a somewhat lower reliability but 3 items instead of 7 items was deemed preferable.

	Trust	Communication	Shared vision
Trust	1		
Communication	0.517*	1	
Shared vision	0.581*	0.600*	1

* correlation significant at the 0.001 level

Table 22: Pearson correlations between components of the social capital construct

The correlation between the global PDM index, financial participation and social capital were computed with a structural equations model in order to account for the internal variation of the social capital construct. Several models were used to estimate the correlation between the global PDM index and social capital. The estimates ranged consistently from -0.456 to -0.488, with a 0.05 significance level. Unsurprisingly, given our previous results, no significant correlation was found between financial participation and social capital.

II.4.5. Participation and ownership culture

The "ownership culture" construct was composed of the answers on the following questions: "To what extent do the workers understand and feel responsible for operational / financial issues?", "To what extent do the workers have room for personal responsibility / input?" and "To what extent do the workers have opportunities for self-development?" (Cronbach's alpha for standardised variables 0.8260) There is a strong and significant linear relationship (Pearson correlation -0.359, significant at the 0.05 level) between PDM and our "ownership culture" construct, but again no relationship between this construct and financial participation.

Conclusions

Based on these observations, and bearing in mind the caveats formulated in § II.1, we can draw the following tentative conclusions from our empirical survey:

1. A surprising result is that PDM seems far more effective to the respondents than financial participation. Financial participation is hardly related to trust, nor to any other component of social capital.

One first explanation is that this is due to our very crude index of financial participation, which can only take three values: no financial participation, weak financial participation and strong financial participation. This measurement problem is compounded with the small number of firms that actually have far-reaching forms of financial participation. That small number makes it almost unthinkable to get statistically significant results about financial participation. Though this measurement problem does certainly have some relevance, other elements allow us to draw different conclusions.

A second explanation is that though financial participation does not appear to have a significant impact on any organisational variable, strong financial participation is intimately linked with strategic PDM. Strategic PDM is clearly related with the other variables we have studied, namely social capital and its components. This would support the claim that financial participation can support the development of social capital, but is not sufficient to initiate this development on a "stand-alone" basis. This claim is perfectly in line with the latest results from other empirical research about employee participation.

Thirdly, our respondents were asked to indicate what they thought were important consequences of participation. We noticed in their answers that items that are typically linked with financial participation (tax-friendly compensation, flexible compensation, savings, anchor the corporation geographically) score significantly worse than items that are typically linked with PDM, e.g. information exchange, self-development, creativity and quality of life at work. This tends to indicate that our respondents perceive financial participation as a weaker human resource management instrument than PDM.

2. The relationship between PDM and trust is asymmetric: while high-trust firms do not necessarily have PDM schemes, almost all firms which have strong PDM schemes are high-trust firms. The exact direction of causality is a delicate issue: does PDM improve trust or does trust lead the management to consider the introduction of PDM? Though, some data suggest that PDM helps to improve the trust climate.

3. PDM on the workfloor may have a greater influence on workfloor productivity than other forms of PDM, and strategic PDM may have a greater influence on trust than other forms of PDM, while a honest application of mandatory participation is also necessary to develop good communication. In any case, these three forms of PDM should not be considered separately: our data show that they are very much related to each other, and that all three are required in order to develop organisational social capital.

4. There are two main ways to increase trust within the organisation: first, by developing PDM, and second, by developing communication. This is consistent with the literature about trust. PDM amounts to sharing power, and this power sharing may help to reduce the uncertainty and vulnerability of the weaker party, i.e. the workers. PDM will indeed allow the workers to control opportunistic managerial behaviour, which is an important factor of distrust between managers and workers. Communication is also acknowledged to be a necessary condition to build identification-based trust, which is the strongest form of trust. Obviously, PDM and communication fit perfectly well with each other, but we would like to stress one more time that all three different forms of PDM are required to develop commmunication at all levels of the organisation.

5. Trust has some characteristics of an "all-or-nothing" phenomenon. Hence we can deliver the following clear message to managers: if one wants to improve the trust climate in one's corporation through increased participation, whether financial or PDM, one should not be afraid to initiate significant "real" changes in one's organisation.

Directions for further research

Primo, in order to have a better picture of the relationships between social capital, financial participation and PDM, we should be able to gather some information from workers' representatives. *Secundo*, we have used in this paper a very crude categorical index of financial participation. A more refined measure instrument would without doubt allow us to make more refined computations and analyses. *Tertio*, we would like to study the potential links between social capital, ownership culture, and financial data about our respondents. However, in order to do so, we need to design an adequate indicator of financial performance. Those three points will guide our endeavours in the near future.

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Appendix 1: ANOVA Tables

Worcou: work councils
Unidel: union delegates
Heasaf: health and safety committee
Quacir: quality circles
Repboa: representatives on the board
Auttea: autonomous teams
Blucol: blue-collar workers
Whicol: white-collar workers

Jobdes: job design
Tasass: task assignment
Jobcir: job circumstances
Teremp: terms of employment
Hrm: human resources management
Invstra: investements and strategic decisions
Prodev: product development
Allpro: allocation of profits

Sectors: 1: Banking
2: Insurance
3: Computing
4: Chemicals

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
worcou	Between Groups	2,075	3	,692	1,850	,149
	Within Groups	20,565	55	,374		
	Total	22,640	58			
unidel	Between Groups	5,444	3	1,815	5,613	,002
	Within Groups	17,781	55	,323		
	Total	23,225	58			
heasaf	Between Groups	1,769	3	,590	2,792	,049
	Within Groups	11,618	55	,211		
	Total	13,387	58			
quacir	Between Groups	,666	3	,222	,415	,743
	Within Groups	28,864	54	,535		
	Total	29,530	57			
repboa	Between Groups	,725	3	,242	,455	,715
	Within Groups	29,724	56	,531		
	Total	30,449	59			
auttea	Between Groups	3,044	3	1,015	1,128	,345
	Within Groups	50,353	56	,899		
	Total	53,397	59			
blucol	Between Groups	1,574	3	,525	1,152	,336
	Within Groups	25,504	56	,455		
	Total	27,078	59			
whicol	Between Groups	,515	3	,172	,212	,888
	Within Groups	45,394	56	,811		
	Total	45,909	59			

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) sector	(J) sector	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
unidel	1	2	-,3074	,2266	,532	-,9077	,2930
		3	,1103	,1950	,942	-,4064	,6270
		4	-,6490*	,2014	,011	-1,1827	-,1154
	2	1	,3074	,2266	,532	-,2930	,9077
		3	,4176	,2266	,265	-,1827	1,0180
		4	-,3417	,2321	,461	-,9567	,2733
	3	1	-,1103	,1950	,942	-,6270	,4064
		2	-,4176	,2266	,265	-1,0180	,1827
		4	-,7593*	,2014	,002	-1,2930	-,2257
	4	1	,6490*	,2014	,011	,1154	1,1827
		2	,3417	,2321	,461	-,2733	,9567
		3	,7593*	,2014	,002	,2257	1,2930
heasaf	1	2	-3,6765E-03	,1832	1,000	-,4889	,4816
		3	,2132	,1576	,534	-,2044	,6309
		4	-,2578	,1628	,396	-,6892	,1735
	2	1	3,676E-03	,1832	1,000	-,4816	,4889
		3	,2169	,1832	,639	-,2684	,7022
		4	-,2542	,1876	,533	-,7513	,2429
	3	1	-,2132	,1576	,534	-,6309	,2044
		2	-,2169	,1832	,639	-,7022	,2684
		4	-,4711*	,1628	,027	-,9024	-3,97E-02
	4	1	,2578	,1628	,396	-,1735	,6892
		2	,2542	,1876	,533	-,2429	,7513
		3	,4711*	,1628	,027	3,973E-02	,9024

*. The mean difference is significant at the .05 level.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
jobdes	Between Groups	19,048	3	6,349	4,707	,005
	Within Groups	75,535	56	1,349		
	Total	94,583	59			
tasass	Between Groups	20,391	3	6,797	3,748	,016
	Within Groups	101,542	56	1,813		
	Total	121,933	59			
jobcir	Between Groups	5,787	3	1,929	1,945	,133
	Within Groups	55,546	56	,992		
	Total	61,333	59			
teremp	Between Groups	11,487	3	3,829	2,757	,051
	Within Groups	77,763	56	1,389		
	Total	89,250	59			
hrm	Between Groups	10,841	3	3,614	1,825	,153
	Within Groups	110,892	56	1,980		
	Total	121,733	59			
invstra	Between Groups	10,572	3	3,524	2,022	,121
	Within Groups	97,611	56	1,743		
	Total	108,183	59			
prodev	Between Groups	3,876	3	1,292	,703	,554
	Within Groups	102,974	56	1,839		
	Total	106,850	59			
allpro	Between Groups	6,101	3	2,034	1,537	,215
	Within Groups	74,082	56	1,323		
	Total	80,183	59			

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) sector	(J) sector	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
jobdes	1	2	-1,63*	,46	,005	-2,85	-,40
		3	-,86	,39	,137	-1,90	,18
		4	-,33	,41	,854	-1,42	,76
	2	1	1,63*	,46	,005	,40	2,85
		3	,77	,46	,347	-,45	1,98
		4	1,30*	,47	,040	4,45E-02	2,56
	3	1	,86	,39	,137	-,18	1,90
		2	-,77	,46	,347	-1,98	,45
		4	,53	,41	,558	-,54	1,61
	4	1	,33	,41	,854	-,76	1,42
		2	-1,30*	,47	,040	-2,56	-4,45E-02
		3	-,53	,41	,558	-1,61	,54
tasass	1	2	-1,08	,54	,194	-2,50	,34
		3	-1,33*	,46	,026	-2,53	-,12
		4	-1,35*	,48	,032	-2,61	-8,59E-02
	2	1	1,08	,54	,194	-,34	2,50
		3	-,24	,53	,967	-1,65	1,16
		4	-,27	,55	,962	-1,72	1,19
	3	1	1,33*	,46	,026	,12	2,53
		2	,24	,53	,967	-1,16	1,65
		4	-2,22E-02	,47	1,000	-1,27	1,22
	4	1	1,35*	,48	,032	8,59E-02	2,61
		2	,27	,55	,962	-1,19	1,72
		3	2,22E-02	,47	1,000	-1,22	1,27
teremp	1	2	-1,29*	,47	,038	-2,54	-5,06E-02
		3	-,46	,40	,657	-1,52	,59
		4	-,76	,42	,274	-1,87	,34
	2	1	1,29*	,47	,038	5,06E-02	2,54
		3	,83	,46	,287	-,40	2,06
		4	,53	,48	,686	-,74	1,81
	3	1	,46	,40	,657	-,59	1,52
		2	-,83	,46	,287	-2,06	,40
		4	-,30	,41	,885	-1,39	,79
	4	1	,76	,42	,274	-,34	1,87
		2	-,53	,48	,686	-1,81	,74
		3	,30	,41	,885	-,79	1,39

*. The mean difference is significant at the .05 level.

Appendix 2: Cluster analysis

A confirmatory cluster analysis was performed in order to check the distinction between three broad categories of PDM, and the allocation of the 8 issues to which workers can participate into these three categories.

The cluster analysis was performed with the Hierarchical Cluster Analsysis procedure (SPSS) using the "between-groups linkage" method. The squared euclidian distance was taken as measure of the distance between the different observations. The data were neither rescaled nor standardised because they were all measured on the same scale. The agglomeration schedule is reproduced below.

	Cluster Combined		
Stage	**Cluster 1**	**Cluster 2**	**Coefficients***
1	3	4	63.00
2	6	7	88.00
3	1	3	89.50
4	5	6	106.00
5	1	2	133.33
6	5	8	143.00
7	1	5	184.25

* Index of the distance between the two clusters joined

1: job design
2: task assignment
3: work circumstances
4: terms of employment
5: hrm
6: strategic & investments
7: product development
8: allocation of profits

Appendix 3: factors of a successful human resources management

25 items were submitted to the respondents. For each item, they were asked to indicate how important was its contribution to a successful human resources management. The items are reproduced here in the same order as they appeared in the questionnaire.

1. stable employment
2. good atmosphere between colleagues
3. varied tasks
4. measure individual performance
5. polyvalent workers
6. challenging jobs
7. individualised rewards policy
8. employment growth
9. clear task description
10. good internal promotion opportunities
11. fine physical work circumstances
12. relaxed relationships with one's superordinate
13. few hierarchical levels
14. teamwork
15. pro-active health and safety policy
16. jobs with responsibility and autonomy
17. reasonable salary span
18. hiring highly qualified workers
19. close individual monitoring
20. flexible work schedules
21. competitive salary
22. hold work pressure under control
23. permanent education
24. long-term employment
25. number of holidays

Appendix 4: effects of participation

42 items were submitted to the respondents. For each item, they were asked to indicate to what extent participation - either financial participation or PDM - could contribute to that particular item, and to what extent the corresponding goal was already realised within their corporation. The items are reproduced here in the same order as they appeared in the questionnaire.

1. to realise a democratic ideal of the top-management
2. to realise the own conception of justice of the top-management
3. to wake up the workers' interest for the corporation's goals
4. to teach the workers to understand and be responsible for operational issues
5. to teach the workers to understand and be responsible for financial issues
6. to increase workers' commitment, loyalty and motivation
7. to support better bottom-up communication
8. to support and encourage two-ways wommunication between workers and management
9. to teach new skills to the workers
10. to create a climate of trust within the corporation
11. to increase productivity
12. to respond to unions' demands
13. to attract excellent applicants
14. to lower the workers' turnover
15. to limit unions' power and attractiveness
16. to support teamwork and team spirit
17. to restore productivity after a downsizing
18. to guarantee the corporation's continuity
19. to deal with the complexity within and outside the corporation
20. to improve innovation
21. to improve the industrial relations (less strikes, etc.)
22. to lower monitoring costs (to replace middle management by peer review, self-control, ...)
23. to direct workers' attention on the long run
24. to support the implementation of a new production system
25. to improve workers' job satisfaction
26. to raise profits through an improved commitment
27. to find complementary sources of finance
28. to protect one's company against take-overs
29. to increase rewards' flexibility
30. to encourage collective saving
31. to anchor the corporation in its local environment
32. to reward the workers in a tax-friendly way
33. to compensate for the absence of co-decision opportunities
34. to develop a private pension scheme
35. to link workers' effort with the corporation's profits
36. to facilitate a sweeping organisational change
37. to optimise information and knowledge flows
38. to compensate for low wages
39. to create room for personal responsibility
40. to create room for personal input and creativity
41. to offer the workers opportunities for personal development
42. to improve the wuality of work life